

STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

January 16, 2007

NOTICE OF DECISION

WATER POLLUTION CONTROL PERMIT NUMBER NEV0088022

Newmont Mining Corporation Hollister Mine

The Nevada Division of Environmental Protection (NDEP) has decided to renew Water Pollution Control Permit NEV0088022 to Newmont Mining Corporation. This permit authorizes the closure of the approved mining facility located in Elko County. The Division has been provided with sufficient information, in accordance with Nevada Administrative Code (NAC) 445A.350 through NAC 445A.447, to assure the Division that the facility will be properly closed and that public safety and health will be protected.

The Water Pollution Control Permit (WPC Permit) will become effective January 31, 2007. The final determination of the Division Administrator may be appealed to the State Environmental Commission pursuant to Nevada Revised Statutes (NRS) 445A.605 and NRS 445A.407. All requests for appeals must be filed by 5:00 PM, January 26, 2007, on Form 3, with the State Environmental Commission, 901 South Stewart Street, Suite 4001, Capitol Complex, Carson City, Nevada 89706-5249. For more information, contact Kurt Kolbe directly at (775) 687-9405, or (775) 687-9400, or visit NDEP's Bureau of Mining Regulation and Reclamation website at <http://ndep.nv.gov/bmrr/bmrr01.htm>.

Comments were received from the Elko County Board of Commissioners, the Nevada Department of Wildlife (NDOW), Dr. Tom Myers on behalf of Great Basin Mine Watch, and NDEP staff.

The Elko County Board of Commissioners, in a letter dated November 15, 2006, stated that they supported the tentative decision of NDEP's Administrator to renew the Water Pollution Control Permit.

The NDOW, in a letter dated November 21, 2006 received via email, expressed concern regarding the impacts of several of the mining components on wildlife resources in the vicinity of the mine. In particular, West Pit water quality and the seepage of sulfate into Little Antelope Creek.

Dr. Myers, in a letter dated November 30, 2006 also received via email, states that Great Basin Mine Watch expressed several concerns with this permit renewal. These include West Pit lake water quality and potential to degrade groundwater, acid drainage from a waste rock dump (South Overburden Stockpile) and the bioreactor used to treat this drainage, and the heap treatment system.

These comments, together with NDEP responses (in ***bold/italics***) are presented below and are also posted on NDEP's Public Notice website at <http://www.ndep.nv.gov/admin/public.htm>.

COMMENT #1 (Myers, page 1)

WEST PIT LAKE -

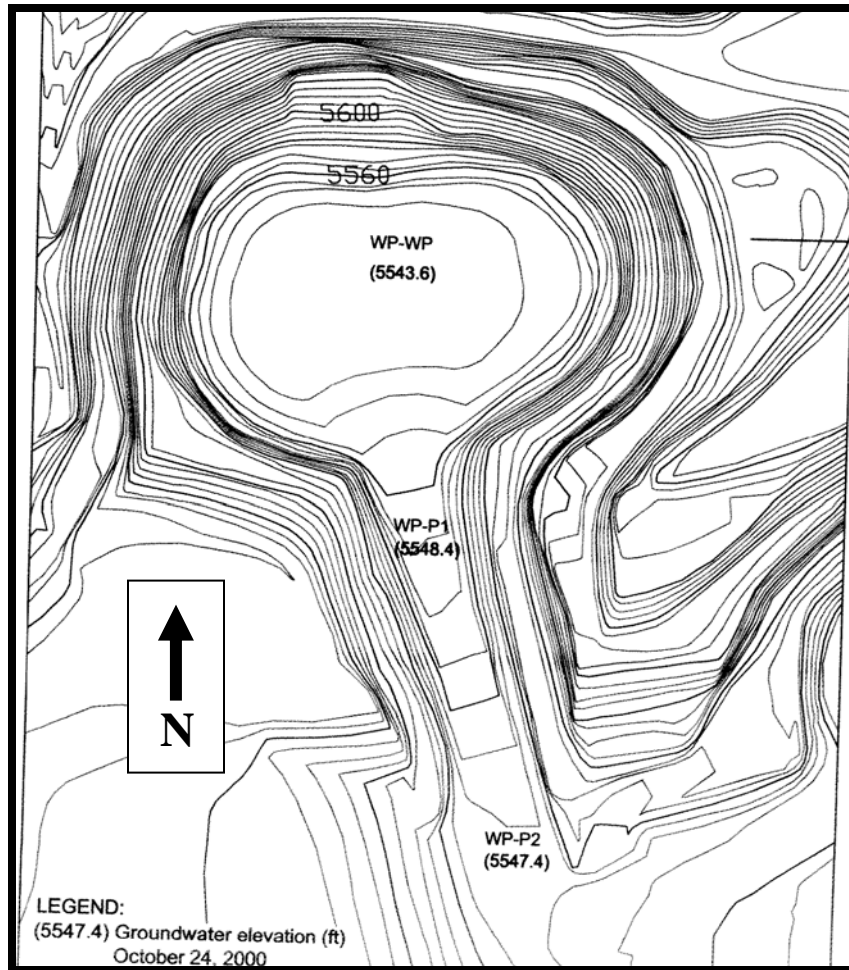
"The 2006 annual report indicates the water quality in the West Pit is an "item of concern" (2005-2006 Hollister Closure Site Operations Summary). If there is flow through the pit, there is clearly a potential to degrade downgradient waters of the state. It is possible that throughflow is currently degrading Little Antelope Creek (see the discussion below). If there is flow through the pit, there is clearly a potential to degrade downgradient waters of the state. It is possible that throughflow is currently degrading Little Antelope Creek...The Fact Sheet implies that the pit is a sink due to evaporation from the free water surface (Fact Sheet, page 2), however this has not been satisfactorily confirmed with data. Three piezometers have been installed "to confirm a terminal sink scenario" (*Id.*). According to the 2000-2001 Hollister Closure Site Operations Summary, there were piezometers placed in the pit in October 2000. Unfortunately the piezometer data is not included in the annual or quarterly reports which I obtained for this review, therefore the conclusion that the piezometers have demonstrated "ground water capture" can not be confirmed (*Id.*). As part of the response to this comment letter, I request that a table of piezometer data and a map of their locations be provided so that the conclusion can be independently verified"

NDEP RESPONSE:

As provided in the Fact Sheet (page 2): "One piezometer has been installed into the saturated zone (static groundwater table) within the pit backfill. Two piezometers, adjacent to and down gradient (ground water flow) of the pit have also been installed. These piezometers are used to determine the ground water gradient (flow direction) over time."

Piezometer WP-WP is a 2-inch diameter piezometer installed into the surface of the West Pit backfill material. Piezometer WP-P1 is a 6-inch diameter piezometer located within the pit area on the south haul ramp, some 90 feet south of the backfill material. Piezometer WP-P2 is another 6-inch diameter piezometer located on the south haul ramp approximately 580 feet south of the pit backfill material. The general groundwater gradient is south. Piezometers WP-P1 and WP-P2 are hydrologically downgradient of the West Pit lake. Little Antelope Creek is located approximately 2,850 feet SSE of the center of the West Pit backfill (WP-WP). As requested, below is a map showing the location of the three piezometers.

HOLLISTER WEST PIT



The following table presents the three piezometer groundwater elevations over time. Please note that for WP-WP, water elevations above the collar elevation indicate the pit lake elevation, not the groundwater elevation.

HOLLISTER WEST PIT PIEZOMETERS			
	WP-WP	WP-P1	WP-P2
	Pit Backfill	Mid Ramp	Top of Ramp
	Collar Elev. 5543.70	Collar Elev. 5563.40	Collar Elev. 5591.30
DATE	WATER ELEVATION (amsl)	WATER ELEVATION (amsl)	WATER ELEVATION (amsl)

10/18/00	5543.10				
10/19/00	5543.40		5548.50		5546.30
10/20/00	5543.50		5548.40		5546.30
10/24/00	5543.60		5548.40		5547.40
1/18/01	5544.60		5547.31		5545.88
2/14/01	5540.74		5547.38		5545.67
3/14/01			5548.42		5546.70
3/27/01	5543.70		5548.09		5547.10
5/16/01	5542.58		5547.96		5546.94
6/20/01	5543.30		5547.48		5546.44
8/8/01	5539.70		5547.17		5546.15
11/28/01	5539.70		5546.80		5544.90
3/18/02	5545.00		5548.00		5546.40
5/30/02	5544.50		5547.55		5548.93
8/13/02	5542.95		5546.49		5546.84
10/21/02	5544.45		5546.90		5546.84
11/14/02	5543.55		5546.75		5545.80
2/6/03	5544.30		5547.20		5545.40
6/5/03	5544.30		5547.20		5545.27
8/6/03	5543.70		5546.52		5545.04
11/25/03	5538.60		5546.50		5544.10
3/15/04			5546.50		5549.25
3/11/05	5543.70				
6/14/05			5549.65		5556.20
9/26/05			5548.50		5549.55
11/4/05			5548.50		5549.55
3/23/06			5550.30		5554.90
6/14/06			5550.50		5553.40
9/25/06			5549.70		5549.30
10/27/06			5549.60		5548.65
12/13/06	5548.54		5549.79		

The two downgradient piezometers have always recorded a higher groundwater elevation than the backfill groundwater or pit lake surface water elevations as provided by WP-WP. This information would indicate that the direction of groundwater flow is to the north, back into the pit, rather than southeast and towards Little Antelope Creek.

Although the piezometer data indicates a terminal sink scenario, it is not possible to state conclusively that the West Pit does not have a flow through component in the direction of Little Antelope Creek. Both NDEP and the operator recognize this possible situation and the requirement for further action. This possibility is also alluded to in the Fact Sheet (page 7): "Beginning in 2003, an increase in TDS, as sulfate, was observed within Little Antelope Creek at monitoring site HOL-SSB (location just downgradient of the SOS bioreactor wetlands). This increase is most pronounced during low flow conditions (summer/fall). TDS values have been recorded as elevated as 2,800 mg/l, well above that characteristic of natural conditions.

At this time, it would appear that the Hollister Mine is responsible for this increase in TDS. The obvious source of sulfate would be the SOS. However, other potential sources should not be overlooked." [Emphasis added]. As such, this renewed Water Pollution Control (WPC) Permit requires (Schedule Of Compliance item) the operator to investigate definitively the source(s) of sulfate being introduced into Little Antelope Creek and to provide potential remedies if required. The operator shall submit a draft report for review providing their direction no later than 15 February, 2007. A NDEP acceptable final version will be required no later than 1 May 2007, with field activities to begin no later than late spring of 2007.

The NDEP will require, as part of the investigation, that the potential for a West Pit lake flow through component be investigated.

COMMENT #2 (Myers, page 8)

WEST PIT LAKE -

"The pit should be backfilled so that a pit lake, either from meteoric waters or groundwater inflow, cannot form. Groundwater flow through the pit backfill would also, however, potentially degrade downgradient waters of the state. Therefore, the operator should install a well in the backfill and prevent the backfill from becoming saturated. Discharge from this well should also be treated..."

NDEP RESPONSE:

The NDEP appreciates constructive comments. At this time however, the NDEP cannot comment on the feasibility of your suggestions until the operator has completed the required investigation of pit lake water and potential pit lake water migration (see NDEP RESPONSE to COMMENT #1 above). The Fact Sheet (page 2) provides that "A permanent drop in pH, together with then potentially mobilized metals/constituents of concern, could jeopardize vegetation within the pit area, compromising the ability of the pit lake to act as a sink." This investigation is also a WPC Permit Schedule Of Compliance (SOC) item requiring the operator to investigate West Pit lake water quality and provide a draft report to NDEP no later than 15 February 2007. This investigation will also include an evaluation of the diversion ditch effectiveness in reducing surface runoff into the West Pit.

COMMENT #3 (NDOW, page 1)

WEST PIT LAKE -

"The water in the West Pit continues to have questionable water quality. Bat use was documented on this pit lake in the summer of 2006. Should the water quality remain questionable, there could be serious implications for bat resources in the vicinity. Terrestrial wildlife were noted to be using the lake as well. The Department intends to follow up on our survey efforts during the summer of 2007 to determine the extent of use by wildlife on this pit lake."

NDEP RESPONSE:

See NDEP RESPONSE to COMMENT #2 above. The NDEP and Newmont are available to discuss the implications of pit lake water quality to wildlife to include mitigation if required. Should the required pit lake investigation determine that current pit lake water quality does not impact the ability of the pit lake to act as a sink, an Ecological Risk Assessment assessing the potential risk to wildlife will be required.

COMMENT #4 (Myers, page 2)

SOUTH OVERBURDEN STOCKPILE (SOS) -

"This waste rock dump lies within 700 feet of Little Antelope Creek and contains substantial sulfidic material (NGC, 1999). The "toe of the SOS has consistently continued to discharge water" (Fact Sheet, page 5). However, the monitoring reports for HOL-SOS frequently state that there was no discharge to sample. The inflow to the bioreactor, HOL-TRTIN, always has sufficient water for sampling. The operator attempts to collect discharge from this waste rock and route it to a bioreactor located near the toe of the dump. Please explain the difference in observations, HOL-SOS and HOL-TRTIN, in the response to these comments."

NDEP RESPONSE:

The inflow to the bioreactor, as sampled at HOL-TRTIN, may or may not represent the quality of a SOS discharge at another SOS location. Within the WPC Permit, under Part D. Monitoring Requirements, is the requirement, presented below, to monitor all four of Hollister's overburden stockpiles:

(4) Inspect all overburden stockpiles for mass and surface stability. Inspect stockpiles for discharge. Designate surfaces as dry, damp, or wet (visible flow or ponding). If any solution is discharging from any portion of a stockpile, collect a representative fluid sample and analyze for Profile I constituents designated above. Conduct a field pH and Specific Conductance. Photos of the discharge area shall also be taken.

Monitoring point HOL-SOS (as are monitoring points HOL-EOS, HOL-WOS, and HOL-NOS if required) is designed to represent any unforeseen discharge from an overburden stockpile. At this time, there is no other known surface discharge from the SOS, hence monitoring reports for HOS-SOS state there was no discharge to sample.

COMMENT #5 (Myers, page 3)

SOUTH OVERBURDEN STOCKPILE (SOS) -

"The bioreactor does not work,..."

NDEP RESPONSE:

The NDEP concurs. As provided within the Fact Sheet (page 6) - "The initial bioreactor anaerobic cell never functioned properly (i.e., reduce sulfate). It is thought that seasonal, very low flows into the bioreactor, perhaps coupled with insufficient exclusion of oxygen, precluded the necessary reducing conditions in these cells."

With respect to the WPC Permit SOC requiring the Little Antelope Creek sulfate source investigation, clearly one potential source of sulfate to Little Antelope Creek would be the SOS discharge as currently collected at the seepage collection system and monitored as bioreactor inflow (HOL-TRTIN). Unless there are circumstances dictating otherwise, the NDEP will require the operator, no later than May 1, 2007, to temporarily contain all SOS discharge reporting to the seepage collection system, thereby bypassing the bioreactor. The operator will be required to either treat the SOS effluent to Class C water quality standards prior to release or to remove the collected seepage from the Little Antelope Creek watershed. This temporary action will benefit the Antelope Creek sulfate source investigation. Upon conclusion of the sulfate source investigation, the NDEP will then reevaluate this temporary action in light of any investigation conclusions/recommendations.

COMMENT #6 (Myers, page 6)

SOUTH OVERBURDEN STOCKPILE (SOS) -

"The wetland area likely accumulates metals because of the evapotranspiration... NDEP should require that Newmont monitor metals concentrations in the wetland soils at least annually. It should also establish standards above which the metals concentrations may not go."

NDEP RESPONSE:

The Fact Sheet (page 6) provides that 'The upland/ wetland will also be monitored for success.' The Water Pollution Control Permit also provides the following requirement under Part I. Specific Facility Conditions and Limitations/Section D. Monitoring Requirements:

(5) The operator shall record flow and sample/analyze the solution (Profile I (1)) emanating from the South overburden dump (bioreactor inflow). The operator shall record flow and sample/analyze the bioreactor effluent (Profile I (1)). The operator will monitor the upland/ wetland for overall health and percent cover.

Granted the terms 'success' and 'overall health' are subjective but it is not possible to list every possible contingency that could arise from these types of treatment systems. The NDEP is expecting the WPC Permit stipulated Little Antelope Creek sulfate source investigation to trigger an extensive hydrologic/water quality review of the site. The review/report will require an updated overall analysis of the bioreactor/wetlands, to include future monitoring requirements, should the operator wish to continue in this direction. Any changes to monitoring requirements will be incorporated into the WPC Permit.

COMMENT #7 (Myers, page 3)

SOUTH OVERBURDEN STOCKPILE (SOS) -

"It is perhaps time to recognize that and do two additional things to protect the waters of the state. First, the cap on the waste rock should be increased so that infiltration and percolation through the waste rock decreases. This would decrease both the total volume and possibly the amount of oxidation occurring within the dump. Second, the bioreactor should be replaced with a more active system. There has been a reverse osmosis system used to treat the heap draindown in the past. A similar system should be used for the waste rock discharge now until the improved cap essentially eliminates the seepage."

NDEP RESPONSE:

As with the NDEP RESPONSE to COMMENT #2 above, the NDEP appreciates these constructive comments. At this time, the NDEP cannot comment on the feasibility of your suggestions until the operator has completed their required investigation of the source(s) of sulfate (and potentially other constituents) being introduced into Little Antelope Creek.

COMMENT # 8 (Myers, page 8)

LITTLE ANTELOPE CREEK -

"The analysis proposed as a SOC should include a detailed synoptic study including water chemistry and flow rates. Samples and measurements should be taken at locations designed to determine which stream reaches receive groundwater or overland flow and which areas received the contaminant loading. Obviously, this should include the potential for flow from the pit lake and from the SOS. Because the creek chemistry varies seasonally, the synoptic study should be done several times."

NDEP RESPONSE:

Comment noted.

COMMENT # 9 (NDOW, page 1)

LITTLE ANTELOPE CREEK -

"Seepage from the South Overburden Stockpile is also a concern for our agency. From the Fact sheet, we also noted that there is seepage near the north toe and sulfate discharge is occurring into Little Antelope Creek. Both of these issues could have impacts to wildlife resources. We would like to work with Newmont, the Bureau of Land Management and your office to ensure the closure of this project provides the best available protection for wildlife resources."

NDEP RESPONSE:

See the NDEP RESPONSE to COMMENT #8 above. Suggestions are welcome.

COMMENT #10 (Myers, page 6)

HEAP SEEPAGE, DRAINDOWN AND HEAP LEACH PAD REDUCTION SYSTEM -

"The lone monitoring well [HOL-MW-1] in saturated groundwater downgradient from the discharge continues to show background water quality conditions. There are several possible reasons that the saturated aquifer has not shown contaminants from this discharge. First, it is possible that all of the contaminants, including salt, selenium and arsenic, attenuate in the unsaturated zone. Second, groundwater flow is controlled by preferential flow pathways, due to fractures, and any plume misses the monitoring. Third, the plume has not yet reached the well. The reality is likely a combination of all three."

NDEP RESPONSE:

The NDEP is aware that groundwater well HOL-MW-1 is not providing the type of information that it was installed to provide. As the Fact Sheet (page 4) states - "Background

groundwater quality in HOL-MW-1 is excellent with all constituents meeting or exceeding NDEP's Profile I reference values. The calculated travel time to this monitoring well was 2 years. It was thought that the reduction field 'plume', when passing through the monitoring well capture zone, would provide a TDS 'signature' of salts, thereby providing empirical evidence of reduction field effectiveness. However, as of 2006, monitoring well HOL-MW-1 has only recorded background ground water conditions."

The reason that HOL-MW-1 only reports background ground water quality is also provided on page 4 of the Fact Sheet - "In 2005, routine inspections in the area of the reduction field indicated solution seepage at the north toe of the reduction field (built on fill). Sample analysis of the solution indicated the source to the treated effluent emanating from the reduction field. It would appear that the fill or undisturbed material beneath the reduction field fill (or both) redirected treated effluent away from the direction (south) that all parties assumed the plume would travel. The operator will now be constructing a new suitable solution sampling point (HOL-NEWP) in the area of the north toe discharge (WPC permit Schedule Of Compliance item). This new monitoring point will also provide insight into leach field evapotranspiration rates. This monitoring point will be sampled three times yearly (Profile I)."

At this time, there is no evidence that the reduction field 'plume' is degrading waters of the state. Groundwater well HOL-MW-1 is located hydrologically downgradient of HOL-NEWP and will continue to be monitored.

COMMENT #11 (Myers, page 5)

HEAP LEACH PAD DRAINDOWN QUALITY -

"The chemistry of the outflow is now significantly worse than in 2000-01. Sulfate and TDS have increased about 20 percent, a significant amount because all four quarters in 2005-06 exceeded those in 2000-01. Also, aluminum in the 2nd and 3rd quarter, 2006, exceeded standards by 5 to 7 times; in 2000-01 it was barely detected. During the same two quarters, WAD cyanide exceeds standards by from 50 to 100 percent. Other contaminants remain the same as before: selenium still exceeds 1.0 mg/l. Arsenic has dropped about 50 percent, but still significantly exceeds standards."

NDEP RESPONSE:

A synopsis of heap leach pad draindown chemistry is provided in the Fact Sheet (page 3) - "As of 2006, heap draindown chemistry continues to demonstrate a neutral pH. Bicarbonate alkalinity has actually shown a slight increase over time, averaging approximately 40 mg/l. Sulfate appears to be slowly increasing over time, averaging approximately 800 mg/l. Other consistently elevated constituents include arsenic (0.13 mg/l); mercury (0.27 mg/l); nitrate (125 mg/l); selenium (1.10 mg/l) and TDS (2100 mg/l) - all approximate averages."

With respect to TDS (approximate average of 2100 mg/l), this average value is actually reasonable and probably falls below an average value when compared to all post-closure heaps in the State of Nevada. Sulfate is elevated but that is to be expected when sulfides are introduced to a heap leach operation. The Fact Sheet (page 3) states that "Acid base

accounting (ABA) performed on the spent heap material indicates the potential for future acid generation." However, as also noted above, alkalinity is actually increasing over time which strongly suggests that future acid generation, at least in the short term, may not occur.

Aluminum values for the last 4 quarters (4/2005 and 1/2/3/2006) average approximately 0.69 mg/l. The State drinking water standard for aluminum is 0.2 mg/l. WAD CN values for the last 4 quarters (4/2005 and 1/2/3/2006) averages approximately 0.21 mg/l. The state drinking water standard for WAD CN is 0.2 mg/l.

Selenium values for the last 4 quarters (4/2005 and 1/2/3/2006) averages approximately 1.12 mg/l. The State drinking water standard for selenium is 0.05 mg/l.

Arsenic values for the last 4 quarters (4/2005 and 1/2/3/2006) averages approximately 0.14 mg/l. The State drinking water standard for arsenic is currently 0.05 mg/l.

It should be noted however that when reviewing heap leach pad draindown chemistry, the State of Nevada does not require the draindown to meet any particular water quality standard nor are any beneficial uses (such as designating heap draindown as a source of drinking water) applied to heap draindown. The NDEP, in it's evaluation of the feasibility of permitting a particular effluent discharge into the environment, relies on individual site specific conditions such as volume of proposed discharge, depth to groundwater, distance to surface waters, background water quality and the potential attenuation capacity of the unsaturated receiving soil column. The factors or conditions provided in the previous sentence are not all inclusive, but are common examples of input parameters in NDEP's methodology when determining the potential for a discharge into the environment to degrade waters of the state. The analysis/review of effluent stream chemical make-up and constituent concentration trends over time (central to your comments above) is a continuous activity critical to NDEP's overall evaluation methodology. Hence the WPC Permit requirement to monitor heap draindown flow and chemistry as part of site closure long-term monitoring.

In conclusion however, directly comparing heap draindown solution quality to State drinking water quality standards, for example, as it appears Dr. Myers has done in his comments, may lead to misleading conclusions.

COMMENT #12 (Myers, page 5)

HEAP LEACH PAD REDUCTION SYSTEM -

"To treat the potential acid production, Newmont constructed an "experimental reduction field" downgradient of the heap (Fact Sheet, page 4). It is possible that initially the field achieved some limited reduction...It is uncertain whether the plants add sufficient carbon to the system because there are no measurements provided – only estimates. The fate of the carbon from the plants is unknown. Until it is proven that sufficient biomass recycles into the system, this condition should not be considered met."

NDEP RESPONSE:

The NDEP agrees with your overall concern regarding the heap leach pad reduction system - its effectiveness in treating long-term heap draindown to conditions precluding degradation of waters of the State has not been proven to date.

The anticipated demonstration of reduction field effectiveness was described in the Fact Sheet (page 4) - "It was thought that the reduction field 'plume', when passing through the monitoring well [HOL-MW-1] capture zone would provide a TDS 'signature' of salts, thereby providing empirical evidence of reduction field effectiveness. However, as of 2006, monitoring well HOL-MW-1 has only recorded background ground water conditions."

The lack of the anticipated reduction field 'signature' in groundwater well HOL-MW-1 was also explained in the Fact Sheet (page 4) - "In 2005, routine inspections in the area of the reduction field indicated solution seepage at the north toe of the reduction field (built on fill). Sample analysis of the solution indicated the source to the treated effluent emanating from the reduction field. It would appear that the fill or undisturbed material beneath the reduction field fill (or both) redirected treated effluent away from the direction (south) that all parties assumed the plume would travel."

The effectiveness of the heap reduction field can only, empirically, be determined by analysis of the reduction field plume 'signature'. Now that the reduction field plume has been located, this analysis can proceed. The WPC Permit requires the operator to establish a new suitable solution sampling point (HOL-NEWP) in the area of the north toe discharge. This new monitoring point will provide insight into the heap reduction field chemical processes and possible reduction field evapotranspiration rates. Any requirements for additional monitoring activities, to include downgradient monitoring wells, will be determined from both the monitoring of HOL-NEWP and the Little Antelope Creek sulfate investigation.

COMMENT #13 (NDEP staff)

HOL-NEWP -

The NDEP, in the draft WPC Permit, did not specify a completion date for sampling/monitoring point HOL-NEWP.

NDEP RESPONSE:

A completion date will be included in the final WPC Permit. The SOC item will be amended to:

2. *The operator will construct a suitable heap draindown solution sampling/monitoring point (HOL-NEWP) in the area of the north toe discharge. This sampling/monitoring point will be installed and operational no later than June 30, 2007.*